

REMARKS

This is in response to the Office Action of May 13, 2009. Independent claim 1 is amended to specify that the water-soluble ethylenically unsaturated monomer is a (meth)acrylic acid or an alkali metal salt thereof, based upon such disclosure as that in paragraphs [0011] and [0012] of the specification. Claim 1 is also amended to specify that the amount of water-soluble substance in the water-absorbent resin is at most 20% by weight. This amendment is based upon Examples 1-6, which are shown in Table 1 to have an amount of water-soluble substance in the water-absorbent resin of at most 20% by weight. See also paragraph [0081] in the specification, which teaches that in the present invention, the inventive water-absorbent resin has "a small amount of water-soluble substance." No new matter is introduced by this Amendment. Entry thereof, in order to place the application into condition for allowance or into better condition for appeal, is earnestly solicited.

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Application No. H09-012613 (hereinafter "Ito"). Applicants respectfully traverse.

Both Ito and the present invention are concerned with reversed phase suspension polymerization in multiple steps. Ito discloses that a reversed phase suspension polymerization takes place in two steps, and that in the first step and the second step, hypophosphorous acid soda is added. See, e.g., paragraph [0046] in Ito. In contrast to Ito, the present invention is characterized by adding *no* phosphorus-containing compound at the first step, but then adding a phosphorus-containing compound to at least one of the second or subsequent steps in the reversed phase suspension polymerization reaction.

The aforementioned characteristics of the present invention favorably affect the amount of water-soluble substance in the reaction product. This is documented by the Rule 132 Declaration which was submitted herein on March 18, 2009. That is, generation of more water-soluble substance was proved by adding the phosphorus-containing compound at the first step, and after that, by carrying out a polymerization reaction at the second and subsequent steps. Specifically, in Table 1 in the present specification and in the Table in the Declaration, it is seen

that the water-absorbent resins obtained by the presently claimed process contain water-soluble substances in a relative amount of 20 weight-% or less, while water-absorbent resins made by the Ito process contain water-soluble substances in a relative amount of more than 20 weight-%.

As stated in paragraph [0003] in Applicants' specification, "In recent years, an absorbent body in a hygienic material such as disposable diaper or sanitary napkin tends to be made thinner from the viewpoint of a comfortable fit upon use. When the absorbent body is thinned, the ratio of a water-absorbent resin in the absorbent body is increased ... in order to maintain the comfortable fit of the hygienic material upon a long-term use, a water-absorbent resin having a smaller amount of water-soluble substance has been desired." Thus, the difference in water-soluble substances between Ito and the present invention is significant. Since the Ito technology results in relatively large amounts of water-soluble substance, a person of ordinary skill in the art would not use Ito as a starting point in an attempt to decrease the amount of water-soluble substance in a disposable diaper or sanitary napkin.

The Examiner admits that Ito fails to disclose a process in which the first polymerization step is conducted *without* a phosphorous-containing compound. The Examiner contends that – in spite of Ito's teaching in paragraph [0046] that 0.1104 g of hypophosphorous acid soda hydrates were added as a water-soluble chain transfer agent – a person of ordinary skill in the art would be motivated to act contrary to the Ito teachings and completely omit the chain transfer agent "to achieve a polymer with desired hydrophilicity." The term "hydrophilicity" is not found in Ito. Why would a person of ordinary skill in the art be dissatisfied with the hydrophilicity of the Ito polymer? What degree of hydrophilicity would a person of ordinary skill in the art desire for the "improved" Ito polymer?

Chain transfer agents are used to control the molecular weight of polymers. What motivation is there to conduct the Ito polymerization reaction but omit an essential reactant therein altogether, resulting in loss of control over the molecular weight of the polymer being produced? The Examiner contends that "it would have been obvious ... to have added less chain transfer agent ... including excluding the chain transfer agent from the first polymerization step." Why from the *first* polymerization step?

It is respectfully submitted that the outstanding Office Action fails to state a sustainable

rejection under the provisions of 35 U.S.C. § 103(a).

On page 5 of the Office Action, the Examiner contends that the Rule 132 Declaration which was filed with the previous Amendment is not commensurate in scope with Applicants' invention as claimed, because "Claim 1 recites a much broader category of 'water-soluble ethylenically unsaturated monomer[s]', whereas the present data is drawn only to the specific ethylenically unsaturated monomer acrylic acid." The claims are now limited to a (meth)acrylic acid or an alkali metal salt thereof, thereby removing the Examiner's concern in this respect.

Applicants respectfully request reconsideration and withdrawal of the present rejection.

CONCLUSION

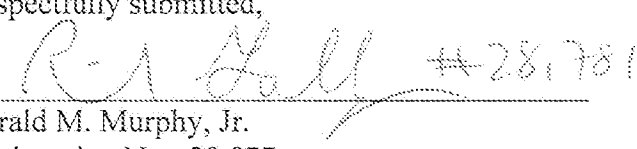
A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case.

Please contact Richard Gallagher, Reg. No. 28,781, at (703) 205-8008 with any questions concerning the present application.

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Respectfully submitted,

By

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